IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	Confirmation No. 2579
KENTEN et al.	Atty. Ref.: 4504-4
Appln. No. 10/726,069	T.C. / Art Unit: 1636
Filed: December 3, 2003	Examiner: J.S. Ketter

FOR: METHODS FOR IDENTIFYING THE ACTIVITY OF GENE PRODUCTS

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PRE-APPEAL BRIEF CONFERENCE REQUEST FOR REVIEW

July 2, 2009

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

A Notice of Appeal is being submitted herewith. Applicants request the following remarks be considered in a pre-appeal brief conference in accordance with the procedure described at 1296 OG 67 (July 12, 2005).

Claims 1-4, 6-12, 14-19 and 21-29 are pending. In his Advisory Action, the Examiner indicated that the after-final amendments would be entered and that they overcome the Section 112 rejection. Therefore, only rejections under Sections 102 and 103 remain as obstacles to patentability. The two independent claims 1 and 25 require:

1. A method for determining whether a gene product has an activity of interest comprising:

(a) co-transfecting a cell with

  (i) a first vector selected from a library of vectors, at least two members of said library comprising genes which encode different test proteins, and

  (ii) a second vector comprising a gene which encodes a reporter protein, wherein said reporter protein affects or regulates a biological process in said cell;

(b) expressing said different test proteins and said reporter protein in a transfected cell;

(c) measuring abundance and/or activity of said reporter protein by observation of an indicator of said biological process in said transfected cell, wherein said abundance and/or activity of said reporter protein is modulated by the presence of a protein that modulates said reporter protein; and

(d) screening said library for one or more members which encode test proteins that modulate said reporter protein.

25. A method for determining whether a gene product has an activity of interest comprising:

(a) treating a well of a multi-well plate with a transfection reagent;

(b) adding to said well (i) a first cell preparation, (ii) a first vector selected from a library of vectors, at least two members of said library comprising genes which encode different test proteins, and (iii) a second vector comprising a gene which encodes a reporter protein, wherein said reporter protein affects or regulates a biological process in said cell;

(c) incubating the multi-well plate to allow cells to incorporate the first and the second vectors;

(d) expressing said different test proteins and said reporter protein in a transfected cell;

(e) measuring abundance and/or activity of said reporter protein by observation of an indicator of said biological process in said transfected cell, wherein said abundance and/or activity of said reporter protein is modulated by the presence of a protein that modulates said reporter protein;

(f) screening said library for one or more members which encode test proteins that modulate said reporter protein; and

(g) repeating (a) to (e) in an additional well of said multi-well plate with a further cell preparation having the same or different genetic background as said first cell preparation.

35 U.S.C. 102 – Novelty

A claim is anticipated only if each and every limitation as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of Calif.*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is claimed. See *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Claims 1-3, 7 and 21-22 were rejected under Section 102(b) as allegedly anticipated by Gallatin et al. (U.S. Patent 5,728,533). Applicants traverse.

In order to anticipate the claims, the cited document must teach each and every element of the claimed invention. Gallatin clearly does not anticipate the present claims because it does not teach screening a library of vectors for a member that has a desired activity, nor does it teach the use of a reporter protein that affects or regulates a biological process in a cell. In his final Office Action, the Examiner refers to the previous Office Action where both of these limitations were alleged to be taught by Gallatin. This apparently refers to the citation in the Office Action mailed April 18, 2008 of column 5, the second full paragraph (emphasis added):

> A modified version of the foregoing assay may be used in isolating a polynucleotide encoding a protein that binds to α_d by transforming or transfecting appropriate host cells with a DNA construct comprising a reporter gene under the control of a promoter regulated by a transcription factor having a DNA-binding domain and an activating domain, expressing in the host cells a first hybrid DNA sequence encoding a first fusion of part or all of α_d and either the DNA binding domain or the activating domain of the transcription factor, expressing in the host cells a library of second hybrid DNA sequences encoding second fusions of part or all of putative α_d binding proteins and the DNA binding domain or activating domain of the transcription factor which is not incorporated in the first fusion, detecting binding of an α_d binding protein to α_d in a particular host cell by detecting the production of reporter gene product in the host cell, and isolating second hybrid DNA sequences encoding α_d binding protein from the particular host cell.

Underlining emphasizes the two limitations/elements being compared. Comparing Applicants' claimed method to Gallatin's disclosure, the clear differences between them are evident, particularly with respect to the transfection and the expression steps. First, Gallatin describes transfecting host cells with a single DNA construct whereas claim 1

transfection requires co-transfecting a cell with (a) a first vector selected from a library of vectors and (b) a second vector comprising a gene coding for a reporter protein. Just as Gallatin's transfection step differs from the transfection in Applicants' claim 1, their expression step(s) also differ. Applicants' claim 1 requires expression of different test proteins and the reporter protein in a transfected cell whereas Gallatin's two expression steps call for expressing a first hybrid DNA sequence encoding a first fusion protein, followed by expressing a library of second hybrid molecules encoding a second fusion.

In his Advisory Action, the Examiner appears to admit that he gives little weight to Applicants' requirement for a gene which encodes a reporter protein ("With respect to the reporter gene, if it had no effect within the cell, it could not be used to screen or select for the presence of the vector" at page 2). Claim 1 requires, however, screening the library by identifying which test proteins modulate the reporter protein. The reporter gene must have an effect on the cell. The Examiner's speculation is irrelevant to proper construction of Applicants' claims because it is the requirement for modulation by a test protein of the reporter protein that enables the claimed method. Anticipation fails if any claim limitation is not disclosed in the prior art. Therefore, Gallatin does not anticipate Applicants' claims.

Withdrawal of the Section 102 rejection is requested because the cited document fails to disclose all limitations of the claimed invention.

35 U.S.C. 103 – Nonobviousness

A claimed invention is unpatentable if the differences between it and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art. *In re Kahn*, 78 USPQ2d 1329, 1334 (Fed. Cir. 2006) citing *Graham v. John Deere*, 148 USPQ 459 (1966). The *Graham* analysis needs to be made explicitly. *KSR v. Teleflex*, 82 USPQ2d 1385, 1396 (2007). It requires findings of fact and a rational basis for combining the prior art disclosures to produce the claimed invention. See id. Thus, a case of prima facie obviousness requires "some rationale, articulation, or reasoned basis to explain why the conclusion of obviousness is correct." *Kahn* at 1335; see *KSR* at 1396.

Claims 1, 3-4, 6, 8-12, 14-19 and 23-29 were rejected under Section 103(a) as allegedly unpatentable over Gallatin et al. (U.S. Patent 5,728,533) in view of Hillman et al. (U.S. Patent 5,942,399). Applicants traverse.

Gallatin was discussed above. It was further alleged in the Office Action that Hillman discloses the additional elements recited in claim 25 and the dependent claims. Hillman does not address the deficiencies described above with respect to Gallatin's disclosure, and does not remedy the failures noted above with respect to the primary document not disclosing required limitations of Applicants' claimed invention. Thus, the combination of Gallatin and Hillman does not render obvious the claimed invention.

In particular, one of ordinary skill in the art would not have found it obvious from Gallatin and Hillman (neither individually nor in combination) to co-transfect a cell with a first vector selected from a library of vectors with at least two members of the library comprising genes which encode different test proteins and a second vector comprising a gene which encodes a reporter protein, wherein that reporter protein affects or regulates a biological process in the cell. Moreover, the documents fail to disclose a reporter protein. Further, there is no evidence in the record to render obvious modifying the two documents, either individually or in combination, to make Applicants' claimed invention with a reasonable expectation of success.

Withdrawal of the Section 103 rejection is requested because the claims would not have been obvious to one of ordinarily skill in the art when this invention was made.

Applicants submit that the present claims are in condition for allowance and they earnestly solicit an early Notice to that effect.

Respectfully submitted,

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